

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An RF module having ground electrodes facing each other and a plurality of through holes bringing the ground electrodes into conduction, in which an electromagnetic wave propagates by using a region surrounded by the ground electrodes and the through holes,

wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A) where d denotes an interval between centers of neighboring through holes and r indicates a radius of each of the through ~~holes~~holes

$$\del{2.0r < d < 10.0r} \underline{3.6r < d < 4.0r} \quad \dots\dots (A) \del{(A-1)}.$$

2. (Currently Amended) An RF module according to claim 1, constructed as a resonator of which side wall is formed by the plurality of through ~~holes~~holes.

~~wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A-1):~~

$$\del{3.6r < d < 4.0r} \quad \dots\dots (A-1)$$

3. (Currently Amended) An RF module according to claim 1, constructed as a transmission line of which side wall is formed by the plurality of through ~~holes~~holes.

~~wherein the plurality of through holes are arranged so as to satisfy the following conditional expression (A-2):~~

$$\del{3.6r < d < 10.0r} \quad \dots\dots (A-2)$$

4. (Currently Amended) An RF module according to claim 1, ~~constructed as a resonator of which side wall is formed by the plurality of through holes~~, wherein the plurality of through holes are arranged so that attenuation of an electromagnetic wave in a non-propagation region between neighboring through holes is 20 dB or higher.

5. (Canceled)

6. (Original) An RF module according to claim 1, having a non-uniform electromagnetic wave intensity distribution,

wherein the plurality of through holes are arranged so that the higher the electromagnetic field intensity is in a region, the smaller a center interval "d" is with respect to the radius "r" of each through hole.

7. (Original) An RF module according to claim 1, wherein a frequency bandwidth of the electromagnetic wave is a range from 20 GHz to 120 GHz.

8. (Original) An RF module according to claim 1, wherein when a wavelength corresponding to a cut-off wavelength f_0 of a frequency of at least a part of a frequency band used is λ_0 ,

$\lambda_0/4 < g$ (where $g = d - 2r$) is satisfied.

9-12. (Canceled)